Replies to Questions on Therapeutics

J. BRINDLEY JAMES

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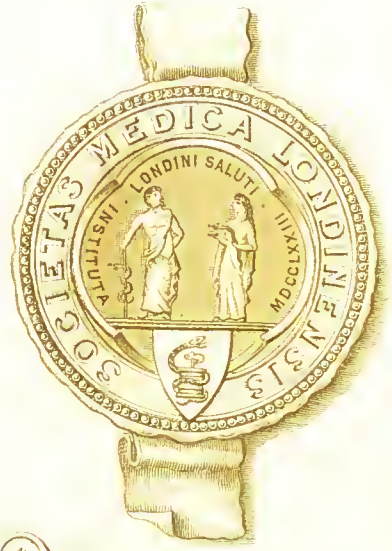

JAMES, Joseph Bradley

REPLIES

TO

QUESTIONS ON THERAPEUTICS,

FOR THE USE OF STUDENTS PREPARING FOR EXAMINATION.

BY

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London:

BAILLIÈRE, TINDALL & COX, KING WILLIAM STREET, STRAND.

DUBLIN: FANNIN & CO., GRAFTON STREET.
EDINBURGH: MACLACHLAN & STEWART, SOUTH BRIDGE.
GLASGOW: A. & W. STENHOUSE, COLLEGE GATE
NEW YORK: PUTNAM & SONS.

1883.

London:
REPRINTED FROM THE "STUDENTS' JOURNAL"
BY
BALLIÈRE, TINDALL & COX.

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Questions Relating to:

PREFACE.

To the vast majority of Students, one of the principal difficulties attending the ordeal of examination consists in want of facility in answering correctly, and without prolixity, the questions submitted. The candidate may be thoroughly versed in the subjects on which his capacity is tested, but owing to want of practice in composition, to nervousness, or other causes, his replies, given in a hurried, disconnected, and unmethodical fashion, fail to convey a just appreciation of the acquirements he really possesses. With a view to removing this stumbling-block from the path of the assiduous but inexperienced candidate, I submit this little work to the perusal of the

Student world. Many of the questions therein contained have been actually submitted to candidates at various recent examinations, and an attentive study of the *form* in which the answers are supplied will prove a great assistance on all such future occasions, especially to those who contemplate obtaining the Licence of the respective Colleges of Physicians.

I eagerly embrace the present occasion of rendering a just tribute of thanks to Dr. Farquharson, M.P., to whose excellent Guide to Therapeutics I am, with the talented author's approval, indebted for a vast amount of materials compiled in this work. I may mention in conclusion that I have received material assistance from my friend, Mr. C. B. Allen, in the tedious labour of compiling the index, &c.

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QUESTIONS AND ANSWERS IN THERAPEUTICS.

1.—*Q.* Mention some drugs which produce eruptions on the skin, and describe the form of eruption produced.

A. (i.) *Copaiba* produces an eruption of bright red papules, not unlike measles.

(ii.) *Bromide of potassium* produces an eruption of acne on the face, and, if still persevered in, the whole body may be covered with large and unsightly blotches.

(iii.) *Arsenic* produces an eruption of either a vesicular, papular, or pustular character.

(iv.) *Mercury* brings out a crop of irritable pimples, and one of the symptoms of mercurial poisoning is an eczematous eruption.

(v.) *Lead* produces a blue line, composed of minute clots.

2.—*Q.* Mention some of the drugs which impart a peculiar colour to the urine, with the varieties of tint produced.

A. (i.) *Santonine* gives a bright yellow colour to the urine. Should the urine be alkaline, a blood red colour is produced, and the same change if ammonia be added to acid urine.

(ii.) *Logwood* gives a pink colour to the urine if it chances to be alkaline.

(iii.) *Carbolic acid* imparts a peculiar greenish black hue.

3.—*Q.* Contrast the paralysing effects of conium, Calabar bean, and veratria.

A. (i.) *Conium* paralyses voluntary muscles by acting on end organs of motor nerves; spinal cord, brain, muscular tissue, and efferent nerves being unaffected. *Dilates pupils.*

(ii.) *Calabar bean* reduces and finally abolishes the diastaltic functions of the spinal cord. It paralyses accelerator nerves and ganglia. *Contracts pupils.*

(iii.) *Veratria* acts as a depressant on spinal cord. Brain unaffected. Produces tetanic spasm of voluntary muscles.

4.—*Q.* State the physiological phenomena which may follow comparatively small doses of quinine, pot. iodidi, pot. bromidium. chloral, and mercury?

A. (i.) *Quinine.* Moderate doses increase the frequency of the pulse. It increases the secretion of saliva, and augments the flow of gastric juice.

(ii.) *Bromide of potassium* produces giddiness, general muscular fatigue, even amounting to actual staggering in some cases.

(iii.) *Iodide of potassium* in some persons produces depression with nausea, diarrhœa, and debility.

(iv.) *Chloral* produces great muscular prostration, more especially affecting the legs, and causing staggering and an eruption.

(v.) *Mercury.* Small doses produce excessive salivation in some persons.

5.—*Q.* State what you mean by a refrigerant.

A. All remedies which actually lower the bodily temperature, or anything which alleviates thirst.

6.—*Q.* An elderly man is attacked with acute bronchitis; the cough and dyspnœa being urgent, and the sputa brought up with difficulty; the blood is beginning to be imperfectly aërated, the skin looking dusky, and the lips blue, and although he is occasionally drowsy by day, he can obtain no sleep in the night from the constant cough. His family are much distressed at this insomnia, and having persuaded the doctor to give him something to make him sleep, a full dose of opium is ordered. State the probable result of this line of practice.

A. The probable result would be slowing of the respiratory movements, thus interfering with the emptying of the bronchial tubes, and causing suffocation.

7.—*Q.* You are summoned to see a case of ague. The patient cannot take bark or quinine in any form. What drug would you recommend in their place?

A.—Arsenic.

8.—*Q.* A case of diarrhœa presents itself, characterized by furred tongue, cramping pain in the abdomen, sickness, and tenesmus, with the expulsion of rather scanty but thin and frequent evacuation. It is proposed to arrest this by means of astringents. State whether this treatment would meet with your approval and what your own plan would be.

A. I would strongly disapprove of the treatment advanced. I would first give an ounce of castor oil, then follow up with astringents, after first unloading the bowels, as all the symptoms indicate that some irritating matter wants to be got rid of.

9.—*Q.* You are called to a bad case of hæmoptysis. All the usual astringents and styptics have failed. What drug would you recommend and how would you administer it?

A. I would give the liquid extract of ergot, beginning with ten-drop doses every four hours.

10.—*Q.* State the best remedy for nocturnal incontinence of urine.

A. The best remedy is belladonna in large doses; as much as a drachm-and-a-half, or even two drachms of the tincture, has been given.

11.—*Q.* Mention the principal medicines used for hypodermic injection, and the mode of performing the operation.

A. Morphia, atropine, strychnia, caffeine, physo stigma. Pick up a loose fold of skin and push canula right through till point works loosely in subdermic cellular space; inject slowly with two or three pauses of a second or two; wait one minute, withdraw canula slowly, pressing firmly with finger and keeping it applied to puncture for a minute or two.

12.—*Q.* Give instances of toleration of drugs.

A. (i.) *Opium* may be taken till sixty grains has been taken night and morning. Dr. Garrod states that he once had a patient who took seventy-two grains of acetate of morphia in one day.

(ii.) *Arsenic* has been taken in large doses.

(iii.) *Digitalis* has been given in ounce doses in delirium tremens.

13.—*Q.* Describe your treatment of purpura.

A. Good nourishing diet, rest, and a well-ventilated room are essential. Ten or twelve drops of dilute sulphuric acid, combined with one grain of quinine, may be given every two hours. Tincture of the perchloride of iron in large doses seems specially serviceable in purpura hæmorrhagica. When internal hæmorrhage occurs, the oil of turpentine, combined with creosote to prevent nausea, is necessary. In cases of extreme anæmia, there is danger of fatal swooning, hence the patient must preserve a horizontal attitude until all the prominent symptoms of anæmia have disappeared.

14.—*Q.* State the rules which would guide you in prescribing acids and alkalis in dyspepsia ?

A. (i.) I would give acids where there was a deficient supply of gastric juice ; the acid should be given after food in these cases, but where there was an excessive formation of gastric juice, I would give the acid mixture before meals, and by so doing check the secretion. (ii.) Alkalis are very beneficial when there is a diminished supply of gastric juice. They arrest the activity of glands furnishing alkaline fluids, while they stimulate those whose secretions partake of the opposite character.

15.—*Q.* Write a prescription for a lotion containing hydrocyanic acid ?

A. ℞. Acid hydrocyanic diluti ʒij.
Glycerine ʒj.
Aqua rosæ ad. ʒviij.
Misce fiat lotio.

16.—*Q.* Mention the uncomfortable effects sometimes resulting from the subcutaneous injection of morphia, and suggest some means for obviating them?

A. Some smarting may be produced, and inflammation and abscess may follow the injection of morphia. The sting of the primary puncture may be obviated by freezing the skin with ether spray.

17—*Q.* Have any bad effects been recorded as following the subcutaneous injection of quinine?

A. Inflammation and even abscess have not unfrequently followed at the seat of puncture.

18.—*Q.* You are called to a case of diarrhœa in which the motions are largely composed of blood and mucus, and much pain and tenesmus follow each evacuation of the bowels; ordinary astringents having failed, what special drug would you advise?

A. Ipecacuanha.

19.—*Q.* Give proofs of the rapid absorption of drugs into the blood.

A. Proofs of such rapid absorption are found in several drugs, such as iodide of potassium, which is found in the urine thirty minutes after being swallowed, as also some of the alkaloids, aconitia, atropia, &c.

20.—*Q.* Give instances of the different and even opposite effects of drugs in large and small doses.

A. (i.) Drop doses of vin. ipecac. will often check vomiting, whereas it is well known that a tea-spoon-

ful or even less will almost immediately evacuate the stomach. (ii.) Sulphate of zinc in twenty or thirty grain doses is prized as our best emetic; while it is equally established that from one to two grains is a valuable nervine tonic, much used by some physicians in the treatment of chorea. (iii.) Small doses of opium excite, whilst large soothe into sleep. (iv.) Half-ounce doses of infusion of digitalis may be more safely given than those of one drachm more frequently repeated.

21.—*Q.* Mention drugs which check, and others which promote, salivation.

A.—I. Promoters of the same:—

(i.) Topical or remote in action: (*a*) Pellitory root. (*b*) Horse-radish. (*c*) Mustard. (*d*) Tobacco (when masticated).

(ii.) (*a*) Mercurial salts (given to a certain extent). (*b*) Iodide of potassium. (*c*) Other medicinal iodides.

II. Abaters of the same:—

(*a*) Astringents generally. (*b*) Chloride of potash; potash salts. (*c*) Sulphur.

22.—*Q.* Mention appropriate remedies for migrame.

A. Quinine, and other anti-tonics.

23.—*Q.* Mention those drugs which depress, and those which excite, the action of the spine.

A.—I. Spinal sedatives:—(*a*) Conium. (*b*) Gelseminum. (*c*) Bromide of potassium. (*d*) Bromide of ammonium. (*e*) Calabar bean. (*f*) Hydrocyanic acid (?).

II. Spinal stimulants:—(*a*) Nux vomica. (*b*.) Strychnia. (*c*) Brucia (?). (*d*) Thebaica. (*e*) Cantharides. (*f*) Phosphorus. (*g*) Arnica. (*h*) Ergot. (*i*) Opium. (*j*) Morphia. (*k*) Belladonna. (*l*) Cannabis Indica (or Indian hemp.)

24.—*Q*. Which preparation of conium is most deserving of confidence, and in what dose should it be given?

A. Conia in one-tenth of a minim dose is most deserving of confidence.

25.—*Q*. Which diuretics act more especially by influencing the renal circulation?

A Digitalis, tobacco, colchicum, scoparium, squills, &c.

26.—*Q*. A child is under treatment for whooping-cough, and the mother states that after each dose of his medicine his face flushes, and he complains of his throat being very dry. What drug is most likely to produce these symptoms?

A. Belladonna.

27.—*Q*. Mention the different remedies to be employed in the various stages of syphilis?

A. In the *first* stage, mercury combined with opium in the form of pill. Externally, blue ointment ʒss to ʒj every night to be rubbed into the skin of the axilla or groin till slight salivation is produced. In the *second* stage, give iodide of potassium with mercury. In the *third* stage, iodide of potassium in large doses up to ʒss three times a day.

28.—*Q.* A case of acute eczema presents itself for treatment; there is much moist exudation, with smarting and tingling, and almost erysipelatous redness. It is proposed to give arsenic. Would this meet with your approval, and what would be your line of practice?

A. Arsenic should not be given in the *acute*, but in the *chronic* stage. The potash salts should be given internally, and applied externally. (Potassæ bicarbonatis ʒss, aqua ad. Oj, is a good lotion.)

29.—*Q.* A patient comes to you in great alarm, thinking that he is paralysed, his legs feeling weak and heavy, and his gait staggering. At the same time you notice a few pimples of acne on his forehead, and you learn that he has lately been suffering from sleeplessness. To what would your suspicions point as the cause of his symptoms?

A. Chronic alcoholism.

30.—*Q.* Give directions for disinfecting a room which has been occupied by scarlet fever patients.

A. The room to be disinfected must be emptied; then a cup containing the following ingredients (common salt ʒiij, black manganese ʒj, oil of vitriol ʒj, and water ʒij) must be placed in the centre of the room, which must then be shut up for two hours, by which time it is thoroughly disinfected.

31.—*Q.* Mention a drug which seems to have a specific influence over the poison of erysipelas, and write a prescription with full directions for its use?

A. Tinctura ferri perchloridi.

℞. Tinc. ferri perchlor ʒiij.
Sol. magnes. sulph. ℥j (ʒj—℥j)
Sp. ætheris chlor. ʒi.
Infus. quassiæ ℥j.
Misce. Aq. ad ʒvj.
Ft. mist. ℥j ter die sumendus.

32.—*Q.* Write a prescription for an effervescing draught containing carbonate of ammonia?

A. ℞. Amm. carb. gr.v.
Infus. Senegæ ʒss.
Tinc. Cinch. co. ʒss
Syrupi ad. ʒiss.
Ft. mist. To be mixed with citric acid gr.v., to form an effervescing draught.

33.—*Q.* Point out the error in the following prescription:—Tinc. hyoscyami ʒss; liq. potassæ ♏xx; mucilaginis ʒss; gentianæ inf. ʒj; ter die.

A. The error consists in prescribing liq. potassæ with henbane, since caustic fixed alkalies destroy its action. The carbonate or bicarbonate of potash may be prescribed without any injurious influence on the drug (Tinct. hyoscyami).

34.—*Q.* You are called to a very severe case of delirium tremens. It seems unadvisable to give opium, and chloral has already failed. What course therefore would you pursue?

A. I should give half-dram doses of tinct. digitalis, as it has been used to reduce fever and cause sleep. Nourishment in small quantities should first have been given, and tonics combined with potass. bromide in ʒss doses frequently.

35.—*Q.* Mention the antidotes for prussic acid, strychnia, arsenic, and opium, with the general line of treatment to be pursued in a case of poisoning by each of these substances.

A.—Prussic Acid. Mixture of protosulphate and sesquisulphate of iron (ferrous and ferric sulphate), followed by solution of potassium carbonate. This poison being rapidly fatal, treatment must be instantaneous. Cold effusion, cautious inhalation of ammonia and chlorine vapours, stimulation externally and internally.

Strychnia.—Bromide of potassium in very large doses. Hydrate of chloral, nitrate of amyl, and atropia have been recommended. Prompt emesis by stomach pump, or mustard and warm water, or mixture of ipecacuanha and zinc sulphate. Inhalation of chloroform continuously employed may relieve symptoms.

Arsenic.—Hydrated sesquioxide of iron to be given in a moist state, in table-spoonful doses, followed by castor oil ; emetics ; warm demulcent drinks.

Opium.—Antidotes : tannic acid, and iodated iodide of potassium. Physiological antidotes : solution of atropia, or tincture of belladonna. Treatment : direct emetics, such as large doses of sulphate of zinc, repeated if necessary, or mustard and warm water, or stomach pump. For the narcotic effects of the drug, effusion with cold water, walking the patient about, arousing him by shaking and shouting, flagellations, enemata of strong coffee. Should these prove ineffectual, then electricity and artificial respiration.

36.—*Q.* You are called to the following cases :—

A middle-aged man has been known to suffer from heart disease, and on applying your ear to his chest you hear a well-marked mitral regurgitant bruit. His face is pale, with a tendency to lividity; his feet are beginning to swell; his pulse is weak and irregular, and does not accurately correspond with the beat of the heart, many of whose pulsations are not transmitted to the wrist; there is great anxiety, with breathlessness; while ordinary stimulants have given only a temporary relief. State your line of practice in such case, and more especially the drug from which you would expect to derive speedy benefit.

A. If the bowels are confined I would give a brisk purgative, such as: pil. col. co. gr. v., to be followed by a prescription containing digitalis, iron, quassia, and spir. æther. chlor. Digitalis is the drug specially recommended in a case similar to that described above.

37.—*Q.* Mention the various drugs which have been of service in tetanus, with your opinions of their relative efficiency, and give the dose of each.

A. Chloral has been successfully used in the treatment of tetanus, both by the mouth and as an enema. The best way is as follows:—

℞. Chloral hydratis ʒj.
Pot. brom. ʒiss.
Syrupi simpl. ʒj.
Infu. gentianæ ʒij.
Aq. ad. ʒvj. ʒj. ter die sumenda.

and as an enema with yolk of egg and milk. Calabar bean is used hypodermically in tetanus, and we use a solution of the extract (from one-sixth to one-third

gr.), neutralizing its inciting activity by the addition of a little soda. I should be in favour of using calabar bean on account of the great sedative action it exerts on the spinal cord, and the great ease with which it is introduced into the system, together with the beneficial results already produced by its use.

38.—*Q.* Explain the action of the principal anæsthetic agents, and state which you consider to be most worthy of confidence.

A. Chloroform when taken internally may act as a stimulant, sedative, and antispasmodic. *Ether*, when taken internally, is a stimulant and antispasmodic. Ether has powerful anæsthetic properties, and differs from chloroform in the following respects :— It increases the arterial pressure instead of diminishing it, and acts as a tonic to the heart, which continues to pulsate in fatal cases after the arrest of breathing. Chloroform is most suitable for children and for aged persons with brittle arteries, also for sustaining anæsthesia during protracted operations inside the mouth. In some cases of operation on the eye, when it is desirable to diminish the hæmorrhage, chloroform is better than ether. The same may be said of its use in midwifery practice. *Nitrous oxide* (the old "laughing-gas") has been recently brought into use as an anæsthetic ; a very brief inhalation causes perfect insensibility, preceded occasionally by slight excitement, and attended by an amount of lividity which at first sight appears most alarming. It has been shown that this insensibility is simply a condition of modified asphyxia, as during narcosis only two-thirds of the normal amount of carbonic acid gas is given off, and im-

mediately after recovery only one-third. Chloroform is best suited for long and severe operations; ether and nitrous oxide for short ones. Chloroform I consider the most worthy of confidence.

39.—*Q.* Mention the remedies which act on the pupil, dividing them into those which act locally and constitutionally. Are there any drugs which act differently on the pupil when taken internally and when locally applied?

A. The medicines which act on the pupil are:—

(*a*) Pupil dilators.
(*b*) Pupil contractors.

Substances which either dilate or contract the pupil.

Pupil Dilators (Mydriastics).—Belladonna, atropine, stramonium, henbane.

Pupil Contractors (Myositics).—Calabar bean, opium, salts of morphia, some other alkaloids in opium, resin of opium.

Belladonna, stramonium, henbane, and opium act both locally and constitutionally. Opium has no influence when applied to the eye, but only after its absorption into the general system, and its action is probably on the third nerve, through the nervous centres.

40.—*Q.* What is the disadvantage of the following prescription?

℞. Tincturæ opii ɱlx.
Acidi sulph. diluti ɱlxx.
Decoc. hæmatoxyli ʒj. t. d. s.

A.—It produces a thick muddy mixture, from the action of the sulphuric acid on the logwood.

41.—*Q.* Write a soothing cough mixture for a case of phthisis, and include chlorate of potash and morphia. Dose: one teaspoonful.

A. ℞. Potass. chlor. ʒj.
Liq. morph. acet. ʒj.
Vin. ipec. ʒj.
Oxymal. scillæ ad. ʒiss.
ʒj when the cough is troublesome

42.—*Q.* State the general treatment of a case of chorea, with the principal drugs which have been found useful, and give your opinion of their respective merits.

A. After a brisk cathartic, combined, should there be any suspicion of the presence of worms, with an anthelmintic, the patient should have a carefully regulated, easily digested diet, and if unable to feed himself, should be assisted to do so. Various remedies have been recommended, such as steel, oxide of zinc, sulphate of copper, nitrate of silver, bromide of potassium, and chloral. None of these have proved so successful as arsenic administered in the following form:

℞. Liq. arsenicalis, ʒj.
Tinct. cardamomi co. ʒiij.
Decoc. cinchonæ, ad. ʒvj.
Misce. ʒss ter die sum. post cibum.

In the very acute cases, chloroform may be inhaled for protracted periods.

43.—*Q.* What are the indications by which we know that conium, arsenic, and strychnia are beginning to produce their physiological effects?

A. Conium acts first on the third nerve, producing drooping of the eyelid (ptosis palpebra), dilatation of the pupil, sluggish and impaired movement of the eye-ball, and so on until total paralysis is produced. *Arsenic* produces irritation of the alimentary canal, and mucous membrane of the eyes, pain in the epigastrium, nausea, and irritation of the eyelids, &c. *Strychnia* produces rigidity and twitching of the muscles, succeeded by tetanic spasms, consciousness being retained.

44.—*Q.* Mention those drugs which are most readily absorbed through the unbroken cuticle.

A. Mercury is most readily absorbed, and sometimes *belladonna* and *digitalis*. Fats and oils assist their absorption, and are absorbed themselves; *e.g.*, cod-liver oil.

45.—*Q.* Enumerate the principal chologogue cathartics.

A. Grey powder, blue pill, calomel, aloes, podophyllum resin, or podophylline, taraxacum (in large doses), and colchicum.

46.—*Q.* State the principal differences between the action of opium and morphia.

A. Morphia is less astringent and antiphlogistic; and, by interfering less with secretion, it is not attended by so much headache, constipation, and dryness of tongue. It is more directly narcotic and anodyne, and is therefore a more convenient remedy when we wish merely to promote sleep or relieve pain. Its bulk is less than that of opium, and it is devoid of smell. The action of the heart becomes

slower, and the arterial tension is raised. The respiration may become irregular from a depressing action on the vagi.

47.—*Q.* You are called to see a case of severely sprained ankle, and hear that a friend is about to apply tincture of arnica. On inquiry you find this remedy has never been used to the patient before. Would you sanction the treatment?

A. I would *not* sanction it; since its use in some cases has caused erysipelas and consequently death.

48.—*Q.* Enumerate those drugs (*a*) which stimulate, (*b*) and which depress the action of the heart.

A. (*a*) *Stimulants:* Iron preparations, digitalis, acid and astringent remedies, nervine tonics, stomachic tonics, blood tonics. (*b*) *Depressors:* Digitalis, green hellebore, tobacco, aconite, colchicum, hydrocyanic acid.

49.—*Q.* State which drugs are most worthy of confidence in cases of neuralgia of the fifth nerve.

A. Aconite and quinine, either singly or in combination. I have also found the tincture of gelseminum sempervirens very useful.

50.—*Q.* A patient presents himself with the following symptoms:—Constipation and violent colic pains in the abdomen, some loss of power in the extensor muscles of the arms, a blue line along the margin of the gums, and anæmia. What is the cause, and what would be the proper treatment of his complaint; and what prophylactic means would you recommend him to adopt?

A. Lead-poisoning. Aperients or enemata followed by opium; or electricity may be tried. Io did

of potassium may be administered, as in the following prescription :—

℞. Potassi iodidi ʒij.
Infusi calumbæ ad. ʒvj.
Misce. Duo cochlearia parve ter die sumenda.

Sulphuric acid, lemonade, and a liberal indulgence in fatty articles of diet may act in some degree as prophylactics. Change clothes after work, and keep the body clean.

51.—*Q.* Mention the various means of ascertaining the bodily temperature in health and disease. Explain their action, more especially enumerating those remedies which act only in conditions of pyrexia.

A. Cold bath, cold packing, ice, internal administration of brandy, aconite, and quinine—these all reduce the temperature of the body. The pulse, and the thermometer placed either in axilla, mouth, or rectum.

52.—*Q.* You have been attending a case of rheumatic fever, and all has gone on well until you are told one morning that the patient has passed a disturbed night, having been restless and delirious; but that, at the same time, the pain in the joints has subsided. You find him looking dull, confused, and only partially conscious. The temperature registers 105°, and in another hour has gone up to 106°. What treatment would you advise ?

A. I would give 10 grains of salicylate of soda every two hours, combined with a bitter infusion; and, if the bowels were confined, 5 grains of Pil. Col. Co. at bed-time.

53.—*Q.* State the principal dangers to be anticipated in the administration of chloroform, with their appropriate remedies ?

A. Chloroform accidents depending, in a great majority of cases, on choking and falling back of the tongue, causing failure of respiration, we must endeavour to re-excite their functions by cold sprinkling or ammonia vapour, but most hopefully by the steady and persevering use of artificial respiration. Galvanism applied to the phrenic nerve, the inhalation of nitrate of amyl, and tracheotomy, have proved successful.

54.—*Q.* Mention the unpleasant effects which sometimes follow the use of quinine ?

A. Headache, deafness, ringing in the ears, and other physiological phenomena. A good many cases have been recorded of eruptions on the skin, gastric derangements, &c.

55.—*Q.* What do you mean by "accumulation" in therapeutics ?

A. The theory that certain drugs persist and become stored up in the system, until they attain a dangerous quantity, when inconvenient or poisonous symptoms may result.

56.—*Q.* A young married woman comes to ask relief for troublesome nausea and vomiting, recurring at intervals throughout the day, but always worse on first rising in the morning. What would you advise in the way of treatment, and how do you account for her symptoms ?

A. I would order the following prescription:

℞. Cerii oxalatis, gr. xxiv.
Extracti gentianæ, gr. xxxvj.

Misce, ft. pil. duodecim, quarum capiat unam bis die. It is caused by sympathy between the uterus and stomach (pregnancy).

57.—*Q.* Write a prescription for an alkaline lotion in a case of acute eczema.

A. ℞. Potassæ bicarb. ʒss.
Aquæ Oi. ft. lotio.

A good lotion in acute eczema.

58.—*Q.* Mention the best narcotics to be used under the following circumstances:—(*a*) Insomnia from overwork or worry. (*b*) Delirium tremens. (*c*) The fierce delirium of typhus. (*d*) Acute mania.

A. (*a*) Bromide of potassium and chloral hydrate. (*b*) Chloral hydrate and digitalis. (*c*) The combination of chloral and bromide. (*d*) Hyoscyamia and Indian hemp.

59.—*Q.* Write a prescription containing iron in combination with iodide of potassium and a vegetable bitter.

A. ℞. Vini ferri, ʒi.
Pot. iodidi, ʒss.
Inf. calumbæ ad. ʒvi.
Misce, ft. mist. ʒj ter die sum.

60.—*Q.* Have any drugs the power of lowering the temperature of the body?

A. Yes; alcohol. The cold bath reduces the temperature of the body. Cold packing, ice, aconite, and quinine.

61.—*Q.* Enumerate the secondary action of emetics, and explain them physiologically.

A. (i.) *Action on Brain and on Nervous System.* Emetics may cause some congestion of the brain by the obstruction of the venous return from the neck during the act of vomiting.

(ii.) *Circulation and Respiration (action on same).* They exercise a sedative action on the heart. As the respiration is close to the vomiting centre, the breathing generally becomes sighing and irregular during the act of vomiting; but in addition to this there is an increase of the secretion from the pulmonary mucous membrane, and the compression of the lungs forces on the retained mucous out of the bronchial tubes.

(iii.) *Organs of Secretion.* By the pressure exerted on the intestines, some slight purgative action may result, and prolonged vomiting always leads to the discharge of bile from the stomach, through the mechanical squeezing of the liver and gall-bladder.

(iv.) *Cutaneous.* Emetics invariably cause free perspiration during their action, as well as an increased flow of saliva.

62.—*Q.* What are the therapeutic uses of bromide of potassium?

A. Bromide of potassium is employed therapeutically as an alterative * in many cases, where patients cannot take the iodide of potassium, to cause removal of glandular swellings and enlarged spleen. It is also extensively employed in diseases of the nervous system, such as chorea, epilepsy, hysteria, whooping cough, laryngismus, stridulus and spasmodic asthma. In many forms of sleeplessness it acts as a soporific

* *Alterative*, having the power to restore the healthy functions of the body without sensible evacuation.

when opium cannot be borne. It is also valuable in affections of the generative organs, and in cases of menorrhagia. In some forms of infantile convulsions, especially such as occur concurrently with, or subsequently to, meningitis, it is often of service.

63.—*Q.* What are the medicinal uses of copper and its salts ?

A. (i.) For *medicinal* purposes the sulphate of copper is used where an astringent is needed for the alimentary canal, in small doses ; in larger ones it is a quickly-acting and powerful emetic. Applied externally in powder, or as a strong solution, it is escharotic in action ; stimulant and astringent when more freely diluted.

64.—*Q.* Under what circumstances is copper resorted to, either in therapeutic or forensic practice, and which of its salts are thus used ?

A. Therapeutically, sulphate of copper is used in large doses as an emetic, its action being prompt and effective ; in small doses, as an astringent. Its external action is escharotic in strong solution (or in powder) ; stimulant and astringent in a weak one. *In forensic practice*, the presence of arsenic is detected by boiling strips of copper in the suspected solution, acidulated with hydrochloric acid, constituting Reinsch's test. Ammonio - sulphate of copper is also used to detect the presence of arsenious acid, a green precipitate of cuprii arsenite being thrown down.

65.—*Q.* How does hyoscyamus act, and in what preparations is it employed ?

A. Hyoscyamus is a narcotic poison, irritant to a small extent ; administered cautiously, it has been

recommended instead of opiates to relieve pain and sleeplessness. Excessive doses cause delirium, inability to see, dilatation of the pupil, and coma. It is administered in the form of tincture, extract, and juice (tinctura, extractum, succus Hy).

66.—*Q.* Enumerate the various officinal preparations which contain arsenic, with their respective doses.

A. Acidum arseniosum, dose 1/60 to 1/12 gr.
Arsenias sodæ, $\frac{1}{16}$ to $\frac{1}{8}$ gr.
Arsenias ferri, $\frac{1}{16}$ to $\frac{1}{8}$ gr.
Liquor arsenicalis, 2 to 8 min.
Liquor arsenici hydrochloricus, 2 to 8 min.

67.—*Q.* A sick person has by mistake taken a large overdose of either iodide or bromide of potassium, it is not clearly known which. What symptoms will ensue in either case?

A. Assuming the overdose to consist of the iodide of potassium, great catarrh and coryza, due to irritation of the mucous lining of the throat, nose, and eyes, will invariably follow, accompanied by headache, nervous irritability, depression, pains in joints, impaired gastric functions, and low febrile symptoms. Assuming the bromide to have been thus taken, dulness of comprehension and torpor, due to impaired cerebral nutrition, frequently accompanied by impaired genital powers, and sometimes by symptoms of iodism; the two salts being frequently mixed in the trade.

68.—*Q.* How does rhubarb act, how is it administered, and what are its officinal preparations and their doses?

A. In *small* doses, it is an astringent stomachic; in *large* ones, an aperient, its purgative action subsiding into an astringent one: this quality renders it very effective in incipient diarrhœa by removing scybola. It may be administered singly, or in combination with sodæ bicarbonas or with magnesia. Its officinal preparations are:

Extractum rhei, dose 5 to 15 gr.
Infusum rhei, 1 to 2 oz.
Tinctura rhei, 1 to 2 dr. as a stomachic; ½ to 1 oz. as a purgative.
Syrupus rhei, 1 to 4 dr.
Pulvis rhei composita, 20 to 60 gr.; 5 to 10 gr. for children.
Simple powdered rhubarb, 1 to 5 gr. as a stomachic; 10 to 30 gr. as a purgative.

69.—*Q.* What circumstances might give ground for suspicion of fatal poisoning by arsenic, and what symptoms might raise a similar surmise of slow arsenical poisoning in the living subject?

A. Death by coma, preceded by vomiting, purging, great pain and tenderness, accompanied by cramps, palpitation, rapid pulse (due to absorption of the poison into the circulation), great thirst, and irritated conjunctiva, are strongly indicative of death by arsenical poisoning; while its action on the cerebro-spinal system is betrayed by convulsions, delirium, cephalalgia, epileptic and tetanic symptoms, and even paralysis. Its elimination by secretion is denoted by uræmia, suppressed urine, and jaundice. Where a living person forms the subject of inquiry, a hot dull pain throughout the course of the alimentary canal, increased pulse, puffy eyelids, with irritability

of the eye, and a white loaded tongue, are very characteristic.

70.—*Q.* In what description of diseases is digitalis prescribed, and how does it act?

A. Digitalis (Fox-glove) is especially recommended in cardiac affections, such as aortic aneurism, hypertrophy, palpitation (functional), and abnormal action where no organic disease is present. It acts by regulating and giving tone to the heart, rendering pulsation less rapid, and thereby gives tone to the whole circulatory system and its vessels. It should be avoided where valvular regurgitation, or hypertrophy due to obstruction, exists. In *cardiac* dropsy it acts as a diuretic, and even in other forms of dropsy it has been resorted to. Where the arterial pulsation is excessive in mental affections, it has also been used.

71.—*Q.* Enumerate the various officinal preparations of belladonna, and describe their general action.

A. The preparations of belladonna are:—From the *root:* Linimentum belladonnæ; from the *leaves:* emplastrum, extractum, tinctura, and unguentum belladonnæ; from *atropia:* liquor atropiæ, liquor atropiæ sulphatis, sulphas atropiæ, and unguentum atropiæ. Its general action is of an anodyne character, especially in spasms of sphincters, neuralgia, and gastric pain, while stimulating the vascular systems. In excess, dysphagia, with excessive thirst and dryness of fauces, and eventually delirium, are caused by it. It also is a characteristic dilator of the pupil.

72.—*Q.* Enumerate such diuretics as are officinal, and give their respective doses.

A. Spiritus ætheris nitrosi, 30 min. to 2 dr.
Spiritus armoraciæ co., 1 to 2 dr.
Extractum colchici, ½ to 2 gr.
Potassæ tartras acida, 20 to 60 gr.
Potassæ nitras, 10 to 30 gr.
Potassæ acetas, 1 to 20 gr.
Tinctura digitalis, 10 to 30 min.
Tinctura cantharidis, 5 to 20 min.
Decoctum scoparii, 2 to 4 oz.
Decoctum taraxaci, 2 to 4 oz.
Decoc. pareiræ, 1 to 2 oz.
Oleum juniperi, 1 to 20 min.
Oleum cubebæ, 5 to 20 min.
Ammoniæ chlor. 5 to 20 gr.
Ammoniæ benzoas, 10 to 20 gr.
Syrupus hemidesmi, 1 dr.
Liquor sodæ effervescens, 5 to 10 gr.
Infusum senegæ, 1 to 2 oz.
Buchu, 20 to 40 gr.
Cambogia, 1 to 4 gr.
Pareira, 30 to 60 gr.
Borax, 5 to 40 gr.
Copaiba, ½ to 1 dr.
Lithiæ carbonas, 3 to 6 gr.

73.—*Q.* What is the meaning of the term cinchonism? and what would be the effect of sulphate of quinine or of cinchona bark administered in excess?

A. Cinchonism is a term descriptive of the abnormal effects developed by overdoses of the various preparations of bark, often exceedingly distressing in proportion to the excess of the overdose. Headache with nausea and giddiness, tinnitus aurium, a flushed countenance, and gastralgia are invariably thus caused. Where the overdose has been excessive, loss of vision and of hearing, benumbed feet, and delirium may ensue. All these abnormal effects

are seen in cases where quinine sulphate or cinchona bark have been administered in excess.

74. *Q.* In what cases is bromide of potassium employed, and for what important remedy is it sometimes substituted?

A. In the following nervous diseases: Hysteria, pertussis, chorea, laryngismus stridulus, spasmodic asthma, and epilepsy; also in infantile convulsions, associated with meningitis; in menorrhagia and disordered generative functions. It is sometimes used instead of iodide of potassium in the treatment of enlarged spleen and glandular affections, when the constitution of the patient does not admit the use of the iodide.

75.—*Q.* Write out a diuretic prescription.

A. ℞. Potassæ acetatis, gr. cxx.
Spiritus ætheris nitrosi, ʒiij.
Tincturæ digitalis, ♏xxx.
Succi scoparii, } āā ʒvj.
Syrupi scillæ, }
Aquæ, ad ʒviij.
Misce, fiat mistura. Sexta pars ter die sum.

76.—*Q.* In what cases would you administer gamboge? Would you prescribe it singly or in combination with other cathartics?

A. Where a purgative of a drastic hydragogue character is required, gamboge is very serviceable; but as the griping it produces is often very distressing, and frequently accompanied by vomiting, it should be prescribed in combination with jalap, scammony, or some other purgative.

77.—*Q.* On what principle would you treat a case of chronic cirrhosis of the liver, and what medicinal agents would you employ?

A. (1) *At the commencement:* Disuse of alcoholic drinks, coffee, curry, and such highly-seasoned dishes. Plain animal food, milk, fish, &c., may be taken. *Treatment at commencement:* Sulphate of magnesia, sulphate of soda, resin of podophyllum, acid tartrate of potash and taraxacum, iodide of potassium, quinine, &c., may be resorted to. (2) *When the degeneration of the hepatic cells has far advanced:* The dietetic rules to be observed as before. With respect to *treatment:* Nitro-hydrochloric acid, pepsine and nux vomica, ox-gall, red iodide of mercury ointment. (3) *Where hæmorrhage has to be checked:* The dietetic rules to be observed as before. *Treatment:* Gallic acid, turpentine, cinnamon, and nitric acid, aromatic sulphuric acid, and opium are used. Cold drinks and ice are of great service. Application of ice in a bladder over the abdomen has proved of great utility. (4) *Where ascites exists:* Digitalis, squills, decoction of broomtops (scoparius), cream of tartar, elaterium, calomel, and potash are used. Tapping may be advisable in some cases. With regard to *diet:* Nourishing food, raw eggs, milk, and stimulants in moderation.

78.—*Q.* What are the various methods of administering ergot?

A. It may be given, by the mouth, in the form of medicine; by the rectum, as an injection; it may also be subcutaneously injected. Ergotine, in four-grain doses, may be employed in subcutaneous injections.

79.—*Q.* Would you administer opium to a patient suffering from delirium tremens who has albumen in his urine? and should you not do so, what would be your reason?

A. I would not give opium in such a case, since the presence of albumen in the urine proves that the kidneys are diseased. The opium consequently would not be eliminated by renal action, and, remaining in the system, would produce poisonous effects.

80.—*Q.* Name those drugs which tend to increase by their action the proportion of red blood-corpuscles and the hæmoglobin they contain.

A. Iron, phosphorus, arsenic, and cod-liver oil have, by careful investigation and direct measurement, been proved to possess this property.

81.—*Q.* Give the various antidotes which are recommended for carbolic acid poisoning.

A. The antidotes most frequently used are olive oil, mucilage of any kind when olive oil is not obtainable, and white of egg. Artificial respiration has proved of great service, and the stomach-pump is resorted to in cases where the carbolic acid is known to be diluted with water at least; where the poison was undiluted, its use must be avoided, on account of the fearfully destructive action it might exert on the injured linings of the alimentary canal.

82.—*Q.* Name the remedies most reliable in painter's colic. What reasons can you assign for their respective use?

A. Alum and iodide of potassium are of great service in painter's colic: alum, because it acts both

as an emetic and a purgative; and iodide of potassium, because it possesses the power of eliminating metallic substances from the blood.

83.—Q. Give your reasons for disbelief in the efficacy of anodyne fomentations, where relief of pain is the object sought, and state what really *does* give relief.

A. For a considerable period poppy-head fomentations have been considered a specific for the relief of pain in various inflammatory conditions, *e.g.*, hæmorrhoids, erysipelas, conjunctivitis, &c.; but as no evidence has ever been adduced of any *absorption* of the drug in these cases, there exists in consequence none whatever of its action, and the soothing effects of such applications can only be attributed to the thorough application of moist heat by means of fomentation.

84.—*Q.* Which are the most reliable drugs you are acquainted with for the treatment of dropsy?

A. Digitalis, scoparius, salts of potash, and pilocarpin are most frequently relied upon for the treatment of dropsy.

85.—*Q.* What drug would you especially place reliance upon in the treatment of febrile affections?

A. Aconite.

86.—*Q.* Name a drug which has been highly prized in the treatment of dipsomania. Give your reasons for its adoption, and write a prescription for the same.

A. Recently capsicum, in 10 minim doses, has been strongly recommended by Dr. Lyons, of Dublin, after a long and successful experience in the treat-

ment of dipsomaniacs. Tincturæ capsici, 10 minims, taken before meals, proves most efficacious in relieving nausea, dyspepsia, and morbid craving for drink in all such cases. The following will prove a very efficient prescription :—

℞. Tincturæ capsici,
Tincturæ nucis vomicæ, āā ℥x.
Acidi nitrici diluti, ℥xx.
Aquæ, ad. ℥i.
Misce, ft. haustus, ter die sumendus.

Highly advisable in cases of undue craving for drink.

87.—*Q.* You are summoned to a poor child who has been drinking boiling water from the spout of a kettle. He is in cruel agony, and his throat is evidently fearfully scalded internally. What would you resort to in order to relieve his sufferings and avert suffocation ?

A. I should instantly obtain some ice of any kind whatever from the nearest shop, and let the child continue sucking and swallowing ice as long as he liked. It will soothe his sufferings, thus giving him great relief, and, by allaying inflammation of the pharynx, will avert the danger of suffocation through the tumefaction of its linings. The child's life may be saved by this simple remedy.

88.—*Q.* In cases of poisoning, which antidote is the most frequently resorted to, and why so ?

A. The sulphate of zinc in 20 grain doses, because it causes less depression to the system than many others, while its action is very rapid.

89.—*Q.* Enumerate the various therapeutic actions exerted by ammonia in affections of the lungs.

A. Carbonate of ammonia acts—(1) as an emetic, and clears the air-tubes when mucus has accumulated in them; (2) it renders sputa thinner and consequently less tenacious and easier to expectorate especially in the later stages of pneumonia); (3) it exerts a stimulating effect.

90.—*Q.* What is the meaning of the term "ergotism"? When has it been chiefly noticed?

A. The morbid effects of ergot taken in excess are (1) *spasmodic*, characterized by spasms of a violent kind; (2) *gangrenous*, the face, nose, and extremities being attacked by dry gangrene. To this the name of *ergotism* has been assigned, and it has been noticed in countries where *rye* bread is extensively consumed, at periods when the rye has been diseased and ergot formed.

91.—*Q.* In what disease is colchicum most frequently administered? Describe its effects and action.

A. Colchicum is chiefly resorted to in the treatment of gout. It removes pain speedily (especially in acute gout); but its mode of action has never yet been fully investigated, although it is esteemed a specific for gouty subjects. It has also a powerful cathartic power, and increases the secretion of bile.

92.—*Q.* What is meant by "bromide acne"? How is it caused, and how may it be removed?

A. When bromide of potassium has been administered to excess, there may arise, in addition to painful nervous symptoms, a disagreeable acne eruption of the face. A small dose has sometimes caused it. The following lotion may be used to remove it:—

℞ Sulphuris præcipit. ʒiij
Spiritus camphoræ ʒi.
Aq. calcis, ad. ʒiij.
Fiat lotio, ad usum externum.

93.—*Q.* How does lobelia act when administered internally, and to what class of cases is its use generally restricted?

A. The action of lobelia is very depressing on the heart and the respiratory organs, and by its diaphoretic action it lessens the temperature. In England it is only resorted to for the relief of spasm in the bronchial tubes, notably in spasmodic asthma.

94.—*Q.* When summoned to a case of poisoning, what principle would guide you relative to the advisability of using the stomach-pump? If you decided not to use it, give your reason.

A. My first consideration would be: What is the nature of the poison swallowed by the patient? If it prove to be a corrosive poison, I should certainly *not* use the stomach-pump, for this reason: the interior linings of the alimentary canal must have been more or less cruelly injured by its action, and I might cause laceration of the tissues, possibly also perforation of the œsophagus or stomach, by resorting to this *otherwise* highly useful appliance.

95.—*Q.* What favourite anthelmintics are most frequently resorted to in the treatment of tape-worm (tænia solium)?

A. The oil of male-fern, administered after a long fast, and efficient purgation, is considered a specific in such cases. Cusso, areca nut, pomegranate root

and especially turpentine have been used in some cases.

96.—*Q.* How would you treat a first attack of gout? Give also the diet.

A. Acute stage: Bleeding is sometimes recommended in plethoric conditions to relieve overloaded heart and congested bowels. Saline aperients: sulphate and carbonate of magnesia; mild laxatives, containing jalap, aloes, senna, rhubarb, &c.; calomel, colchicum, aloes, and ipecacuanha pill; acetate, citrate, or bicarbonate of potash. Emetics: opium. Hot air or vapour bath. Colchicum, in Vichy water, or with sedatives or alkalies, or iodide of potassium, &c. *Locally:* Cotton wool and oiled silk; anodyne lotion; one or two leeches; poultice with extract of belladonnæ or opium. *Diet:* Milk, arrowroot, tapioca, tea, diluents, soda water, Vichy water. Avoid animal food too soon.

97.—*Q.* Give all the aperient drugs you know, and classify them.

A. (1) *Mild*: Cassia, fig, elaterium, magnesia, manna, tartaric acid, tart. of potass, prune, castor oil, soap, sulph. or tart. of soda, sulphur, tamarind. (2) *Active*: Aloes, black hellebore, jalap, Epsom salt, podophyllin, rhubarb, senna. (3) *Drastic*: Colocynth, croton oil, gamboge, scammony.

98.—*Q.* Give all the anthelmintic drugs you know, and classify them.

A. (1) For thread-worm: areca; enema aloes, sodii chloridi, ol. olivæ, quassiæ; mucuna, santoninum, scammonia, spigelia. (2) For round-worm: calomel, jalap, mucuna, sabina. (3) For

tape-worm: granati. cost. rad., decoct. filicis ext. liq. cusso, kamala, tereb. conf. et. ol.

99.—*Q.* Define a poison, and classify the various kinds of poisons. Give a list of narcotic poisons.

A. A poison is a substance which consists of any matter which, when absorbed into the blood, is capable of destroying life. Poisons are arranged, according to their action, into three classes—Irritants, Narcotics, and Narcotic-irritants. The narcotic poisons are the following: opium, hydrocyanic acid, nitro-benzole, anitine, chloroform, æther, amylene, alcohol, henbane, lettuce-opium, nightshade, narcotic gases.

100.—*Q.* What remedies have been the most recommended for obviating the formation of calculus under various conditions?

A.—(1) In the *Uric Acid* diathesis, bicarbonate and citrate of potash. (2) In the *Phosphatic* diathesis, bark and quinine, phosphoric and nitro-hydrochloric acids, opium. (3) In *Oxaluria*, dilute nitric and hydrochloric acids.

101.—*Q.* Define an antidote, and the therapeutic properties implied by such a term when applied to a drug.

A.—An antidote signifies a remedy administered with a view to counteracting the fatal effects of a poison. It should be of such a nature as to permit the administration of a large dose in safety, to be capable of acting on the poison at a no higher temperature than that of the body, to combine with it in spite of its admixture with bile, gastric juice, or whatever else the stomach may contain, so as to

annul its dangerous properties, and, lastly, to be of rapid action.

102.—*Q.* In what cases is the use of pepsine advisable?

A.—Especially in dyspepsia, when it is of great avail, particularly so in combination with dilute hydrochloric acid; in like manner, in cases of spasmodic asthma. Combined with iron it is useful in treating anæmia. It is also of great service in counteracting the distressing vomiting after meals frequently experienced by aged people with weak stomachs.

103.—*Q.* You are attending a person suffering from typhoid fever; the case is proceeding very satisfactorily, and your patient is very fond of fruit; would you permit him to have any, or would you exclude it from the regimen you prescribe him?

A. I should not exclude *all* fruits, since the action of many, when included in the dietary, is beneficial in general to health; but I should strictly prohibit all *stone* fruit, such as *cherries*, *apricots*, *peaches*, &c., for this reason, that he might accidentally swallow one or more stones; and that in the diseased and ulcerated condition in which part of the alimentary canal finds itself towards the conclusion of an attack of typhoid, such a stone might lodge in the intestine, act as a foreign body on the weakened and diseased inings, and cause fatal sphacelus and perforation. On the other hand, no such objection need apply to strawberries, mulberries, &c.

104.—*Q.* What specific do you know of for the treatment of diabetes?

A. None, for the theory of diabetes is itself as

yet imperfectly understood. It might be considered a *negative* specific, but the ruling principle of treatment in such cases is to rigidly exclude all alimentary or medicinal matters containing sugar, *e.g.*, substituting bran loaves and almond rusks for ordinary bread, &c.

105.—*Q.* What therapeutic advantages are to be obtained from the use of ice, internally and externally.

A. Where hæmorrhage from the stomach, lungs, uterus and nose, has arisen, and where great distress has been caused by cardialgia and vomiting, the internal administration of ice has proved very beneficial, by causing constriction of the bleeding vessels through the sympathetic connection between their respective organs and the stomach. Externally, it has been successfully resorted to to check hæmorrhage in the above cases, and notably in fistula and hæmorrhoids. In cases of meningitis it is applied to the head in a bladder (technically termed an ice-cap), also in some cases of apoplexy, mania, and acute hydrocephalus. Friction with ice or snow is of great service in arresting the process of frost-bite.

106.—*Q.* Enumerate the respective therapeutic qualities of quinine as displayed in various affections.

A. Quinine is (1) *Tonic* in the treatment of diminished appetite and debilitating perspiration. (2) *Antispasmodic and sedative* in neuralgia (this does not apply where malaria exists). (3) *Antipyretic* in all fevers. (4) *Antiperiodic* in ague, malaria, and congestion of spleen and liver. (5) *Antiseptic and*

stimulant in septicæmia and other surgical and puerperal diseases of blood, in unhealthy ulcers, putrid sore throat, affections of gums, and inflammatory suppuration.

107.—*Q.* Under what circumstances are digitalis, aconite, and bromide of potassium especially useful?

A. (1) *Digitalis* is of very great service in valvular lesions of the heart, especially in mitral disease; it renders the heart's action slower, thus allowing more time for the auricle to empty itself fully of the blood it contains. It is useful also in hæmoptysis and menorrhagia; in bronchitis, where there is a weak and dilated right heart. It lowers the temperature of the body; and in cases of dropsy it acts as a diuretic, more especially so in acute renal dropsy. (2) *Aconite* is of use in facial neuralgia and in sick headache. It is an excellent antiphlogistic, cutting short inflammatory processes in their early stages, as exemplified in pneumonia, pleurisy, peritonitis, erysipelas, and rheumatic fever. It is an excellent diaphoretic. (3) *Bromide of potassium* is highly useful in convulsions, epilepsy, incontinence of urine, pertussis, cramp of the lower limbs, chorea, and delirium tremens. It is said to be an effective remedy for sea-sickness, owing to its sedative effect on the centre concerned in the reflex act of vomiting. It is an excellent narcotic, inducing refreshing sleep; and has proved useful in cases of diabetes.

108.—*Q.* Write in full a prescription containing digitalis.

A. ℞. Tincturæ digitalis, ʒi.
Ferri et ammoniæ citratis, gr. xxx.
Spiritus ætheris chlorici, ʒi.
Aquæ ad ʒvi.

Misce, fiat mistura ; ex hac sexta pars ter die sumenda.

109.—*Q.* Give the physiological action and uses of aconite.

A. (1) *On the nervous system.*—(*a*) On the brain. The intellectual functions are normal; sometimes stupor has been produced. (*b*) On the spinal cord: Aconite paralyses both the motor and reflex actions of the cord, as evidenced by total loss of power in the muscular system. The respiratory centres eventually become paralysed, and death may result by suffocation. (2) *On the circulatory apparatus:* Aconite is essentially a cardiac sedative, rendering at first the action of the heart slower, but after a time increasing its rapidity; feebleness, irregularity, and eventually death, are induced by it. (3) *On the respiration and temperature:* The respiratory movements tend to become slow, finally irregular, and death eventually results from stoppage of breathing. The temperature exhibits a marked decrease. (4) *On the digestive and secreting apparatus:* It has no special influence on digestion, but it somewhat increases the salivary secretion, and augments largely the action of perspiration; in some instances, it brings out an irritable vesicular eruption.

110.—*Q.* Give the physiological action of *digitalis*.

A. (1) *On the brain and spinal cord:* No direct action is produced on the brain, but the reflex irritability of the spinal cord is somewhat lessened under the toxic action of the drug. (2) *On the heart and circulation:* Digitalis exerts a decidedly tonic and strengthening influence on the heart, rendering its beats slower and stronger, and also lengthening the systole. If the drug is too freely

given, the heart s action is increased and weakened. (3) *On the respiration and temperature:* On respiration no effect is produced. It reduces the temperature in pneumonia, enteric fever, acute rheumatism, and in other diseases of acute character. (4) *On the digestive and secreting organs:*—(*a*) On the stomach and intestines: From its bitter taste, digitalis might be credited with some tonic properties, but it is really much more likely to disorder the appetite by causing vomiting. It does not appear to influence the intestinal tract in any way, save in the latter stage of poisoning, when diarrhœa supervenes. (*b*) On the kidneys: It increases the flow of urine, its diuretic effect depending partly on the tightening of the arterials raising the blood-pressure in the renal glomeruoli, and partly on the increased power and regularity of the heart, improving the general condition of circulation within the kidneys. It does not increase the flow of urine in healthy subjects, but acts most effectually in cases of ascites. (5) *On the uterus:* Digitalis, from its action on unstriped muscular fibre, has the power of stimulating the uterus to contraction (hence its use should be avoided in cases of pregnancy).

111.—*Q.* Mention the indication for the use of alcohol in fever.

A. The different periods at which the use of alcohol becomes advisable in various fevers are as follows:—In typhus, about the seventh day; in typhoid, about the twelfth day; in variola, when the *secondary* fever is developed; in acute inflammation generally, when the heart begins to fail, and the nervous system to show signs of decay.

112.—*Q.* Give your treatment for dilatation of the stomach.

A. Regulation of the diet ; unfermented or aërated bread ; food not to be too limited when the appetite is large ; formation of parasites to be checked by sulphite of soda, sulphite of potash, and washing out the stomach with Vichy water by means of the stomach-pump.

113.—*Q.* How do the following drugs act when given for coughs :—Prussic acid, opium and tar pills ?

A. (1) *Prussic acid* is sometimes used for chronic and spasmodic cough, as it relieves spasm. (2) *Opium* is the most soothing remedy available for all kinds of coughs, but most especially in that of phthisis. (Liquor morphiæ acetatis is the most advisable form for administration in such cases, as it does not dissolve in the stomach.) (3) *Tar pills* are recommended by Dr. Ringer for their stimulating action on the respiratory mucous membrane. He advises two-grain pills, taken three times daily, as a most efficient remedy for winter cough.

114.—*Q.* In what class of disease has Virginian Tobacco been administered therapeutically ? State your objections (if any) to its use.

A. In case of dropsy, Virginia Tobacco has been administered in the form of enema, on account of its diuretic properties. It is however a very uncertain remedy, frequently inducing very dangerous depression especially in cases where cardiac disease exists, owing to its powerful sectative actions. These objections would justify the prohibition of its therapeutic usage.

115.—*Q.* For what reasons are alkaline so freely resorted to in the treatment of acute rheumatism ?

A. Because in this disease the system is suffering from a morbid devolopment of *lactic acid* in the circulation, which alkaline remedies logically tend to oppose and dispel.

116.—*Q.* Explain fully what principles would guide you in the treatment of a confirmed case of scurvey, acquired under great privations at sea.

A. As this disease under such conditions especially is obviously due to great exposure to fatigue and cold with insufficient or unnutritious salted diet, and privations of fresh vegetable food, I should prescribe rest in warm atmosphere to restore the low vitality of the patient; soups and milk as diet primarily, and as the patients strength and digestion improve *fresh* meat, and vegetables in abundance, to restore the nitrogenous element of the blood rendered deficient by long deprivation of the same. Oranges, *lime juice* and potatoes enjoy a high reputation as antiscorbutics and should be freely administered, as also six or eight ounces of the balm of beer (if procurable) daily. As deficient or abnormal nutrition causes a deficiency of potash salts in the blood, the administration of the chlorate or tartrate of potash will prove highly beneficial. Where painful ecchymoses are developed, spirits of camphor and aromatic vinegar are highly recommended for application as compresses and lotions.

117.—*Q.* Write an expectorant prescription for a case of bronchitis.

A. ℞ Amm. Carb. ʒj.
Tinc. Scillæ ʒiij.
Tinc. Camph, Co. ʒss.
Decoc. Senegæ, ad. ʒij
Misc, fr. mist. ʒss ter die suminde.

118.—*Q.* Why has the administration of Digitalis been considered hazardous in cases of Aortic regurgitation ?

A. Because it may drive the ventrical into a contracted condition which may remain permanent.

119.—*Q.* Is there any special treatment for the condition known as cyanosis ?

A. None, as the condition is soley due to congenital malformation of the heart. All the distressing symptoms which characterize it, palpitations, dyspuræ, syncope, &c., must be dealt with on general principles as they arrive.

120.—*Q.* What advantage and disadvantage attach to fish as an article of diet, in sickness and in health.

A. Fresh and healthy fish, being easily digested, are highly adapted to convalescents and persons of delicate health. The least approach to a state or putrid condition however, should be rejected by both healthy persons and invalids, as its effects may be injurious in the extreme in either case. Shell-fish (mussels, whilks, &c.) are not an advisable article of food, severe attacks of urticaria and other distressing symptoms being sometimes suddenly devoloped even in the most healthy subjects through eating them. It is needless to add that an excessive diet of *salted* fish, like all provisions thus prepared, induces scurvy.

121.—*Q.* Write a prescription for a sleeping draught containing henbane, for a young person about fourteen years of age.

A. ℞. Tinct. Hyosyami ♏xx.
Liq. ammonia acetatis ʒj.
Syrupi solutani ʒij.
Mist. camphoræ ad. ʒiss.
Misce. ft. haust. horæ somni sumendus.

122.—*Q.* You are summoned to a female suffering from burning pain in stomach and loins, passing very bloody urine with the greatest pain, and presenting alarming signs of syncope. You elicit from her that she has swallowed a large dose of tinc. cantharides with a view to procure abortion. Name the antidote you would administer.

A. There is no specific antidote known for poisoning by cantharides. I should seek to excite vomiting, administering linseed tea, or gum water copiously, but avoiding the use of any description of *oil*, which would only act as a solvent on the active principle of this poison (cantharidine) and thus aggravate her serious condition. A warm bath would tend greatly to relieve pain in such a case.

123.—*Q.* Name the official preparation of acetate of lead, and state for what purposes this drug is employed.

A. (*a*) Pil. plumbi cum opio.
(*b*) Suppositoria plumbi cc.
(*c*) Unguentum plumbi acetatis.

Acetate of lead is administered internally, (*a*) to check hæmorrhage; (*b*) in cases of diarrhœa and dysentery also, on account of its astringent properties; (*c*) to relieve excessive sweating and expectorations in phthisis.

Externally applied it exercises a soothing and beneficial effect on irritable ulcers.

124.—*Q.* What rules would guide you respecting the therapeutic use of mercury in the treatment of syphilitic cases?

A. It should be used with the greatest caution, and never to a great extent. It may always be em-

ployed locally, in form of black and yellow wash, or of blue ointment, provided the syphilitic sores thus treated be not in an irritable or inflamed condition.

It may be administered internally, in small doses of grey powder, in cases of Infantile Syphilis. In acute or secondary cases it should be avoided altogether where the patient's constitution has been seriously impaired by dissipation, disease or privation, or where a strumous or cachectic habit of body prevails. Otherwise it may be cautiously resorted to in the form of Plummer's pill or Calomel in combination with Opium. Its internal use, however, even under favourable conditions, frequently causes purging and irritation of the stomach; inunction outwardly with blue ointment, or fumigation would be a safer mode of employing it.*

125.—*Q.* Mention the various diseases in which the administration of camphor internally, or its use externally, may prove advisable; and state whether any danger may attend its use in excess.

A. Camphor being not only stimulant and antispasmodic, but also anti-pyretic in its action, may be employed in adynamic fevers and choleric diarrhœa; in chorea, hysteric epilepsy and whooping cough, and to allay sexual excitement under some circumstances of disease; while its action as an outward application to painful and stiff parts is favourably stimulant. An excessive dose may induce vomiting, vertigo, feeble pulsation, coldness of the extremities, and in some cases has been known to bring on coma and death. Its excessive use for a protracted period has been known to cause insanity.

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* Ung. Hydrargyri mitior is specially useful as an outward application in congenital Infantile Syphilis.

126.—*Q.* Write a prescription for a female patient suffering from persistent incontinence of urine after a severe labour.

A. ℞. Strychniæ, grss.
Spir. vini. rectif., } āā ℥j.
Syrupi, }
Tinc. ferri. perchloridi, ℥ij
Aq. dist. ad ℥vj.
Misce, ft. mist. Cochl. ampl. ter die sumendus.

127.—*Q.* You are attending a man who has received a severe penetrating wound from a knife in the abdomen. State what treatment you would adopt, and what internal remedies you would administer (if any) independently of the necessary surgical aid required.

A. In such a case, I should enforce absolute rest and quietness, strictly limiting the diet, and only permitting such food as the stomach can readily absorb. I should administer opium freely, in order to assuage pain and sleeplessness, and avert inflammation. Should threatening inflammatory symptoms arise, I should give calomel in combination with opium. The following prescription is a good one in such a case :

℞. Calomelanos, gr. j.
Pulveris opii, gr. ¼.
Confec. rosæ camiæ q. s.
Misce, ft. pilula, statim sumenda.

I should avoid the administration of purgatives, but relieve constipation by enemata instead.

128.—*Q.* Name the officinal preparations into the composition of which iodide of potassium enters, and state the class of diseases to which it is especially adapted.

A. Iodide of potassium is contained in unguentum potassii iodidi, and in linimentum potassii iodidi cum sapone. It is of pre-eminent utility in the internal treatment of syphilitic patients with broken-down constitutions, where the administration of mercurials would be impracticable. It may be considered a specific, especially when given in combination with the ammonio citrate, or the tartrate of iron, for syphilitic affections of the bones, as also in the after treatment of cases of poisoning from mercury taken internally.

129. *Q.*—Enumerate the officinal preparations of conium maculatum, with their respective doses; and state the cases of disease in which this drug may be therapeutically employed.

A. Officinal preparations of conium *fruit.* :

Tinctura conii, dose ℥xx.—℥lx.

Of. conium *leaves*:

Succus conii, 3 gr.—℈i.

Extractum conii, gr. ij.—vj.

Pilulæ conii compositæ, gr. v.—x.

Cataplasma conii.

Vapor coniæ (inhalation of coniæ, the extract of Hemlock. Twenty minims on a sponge, for an inhalation through hot water in a suitable apparatus). Conium is employed on account of its anti-spasmodic properties in the treatment of chorea, mercurial tremor, agitating palsy, and paraplegic twitchings of the lower extremities. The vapor coniæ has been used in cases of whooping cough, phthisis and bronchitis to relieve persistent cough. It is said to improve the general health, and assuage pain in cases of cancer.

130. *Q.*—State the various forms of diarrhœa, where you would administer astringent remedies, as also those to which you consider them inapplicable.

A. Where diarrhœa is due to *intestinal catarrh*, I should give such vegetable astringents as gallic acid and catechu. In the *sympathetic* form of diarrhœa, as seen in pregnancy for instance, chalk mixture with a little opium would be highly useful. In that rare form known as *fibrinous* diarrhœa I should give mineral astringents. On the other hand, where diarrhœa is due to the retention of *unwholesome* food in the stomach, in the *bilious* diarrhœa due to excess of animal food in a hot climate, and in the *serous or watery* diarrhœa seen in ascites, cholera, &c., astringents are uncalled for. In the latter case vegetable astringents may be needed where the discharge is very excessive. As a rule, the object in these cases should be to remove the *cause* of diarrhœa, not to check its effect only. The same principle applies to the diarrhœa attending typhoid fever, tubercular phthisis, &c.

THE END

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Remrose & Sons, Printers, 23, Old Bailey, London; and Derby.